

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application He et al.
Serial No. 10/779,492
Group Art Unit 1713
Examiner Peter D. Mulcahy
Filing Date 13 February 2004
Attorney Docket No. N-3074.NWN
Title Adhesive Containing Radial Block Copolymer

Response to a Notification of Non-Compliant Appeal Brief

In response to the Notification of Non-Compliant Appeal Brief, mailed 27 Nov 2009, applicants submit herewith a corrected Brief, eliminating references to Diehl US 5,292,819, which cures all noted defects.

(i) Real party in interest

The real party in interest is Henkel AG & Co. KGaA.

(ii) Related appeals and interferences

The Board is directed to the appeals relating to copending commonly assigned application Serial Nos. 10/779,420 and 10/779,505, as listed in the Related proceedings appendix.

(iii) Status of Claims

Claims 1-4, 6-9, 11-14, 16 and 17 are pending.

Claims 5, 10 and 15 have been canceled.

Claims 1-4, 6-9, 11-14, 16 and 17 are provisional rejected as being unpatentably obvious over claims 1-4, 11-14 and 16 of copending application Serial No.10/779,420 and over claims 1-4 and 6-12 of copending application Serial No. 10/779,505.

Claims 1- 4, 6-9, 11-14, 16 and 17 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Komatsuzaki et al. (U.S. 6,534,593) or Vaughan et al. (U.S. 6,531,544) or Kueppers (U.S. 5,939,483) or Asahara et al. (U.S. 5,532,319).

Claims 1-4, 6-9, 11-14 and 16 are rejected under 35 U.S.C. § 112, first paragraph.

The rejections of claims 1-4, 6-9, 11-14, 16 and 17 are being appealed.

(iv) Status of Amendments

All amendments have been entered.

(v) Summary of claimed subject matter

Independent claim 1 is directed to a hot melt adhesive. The adhesive comprises, as required components, (i) a radial block copolymer component comprising $(PS-PI)_nX$ wherein PS is polystyrene and PI is polyisoprene, X is the residue of a multifunctional coupling agent used in the production of the radial block copolymer, and n is equal to or greater than 3 and represents the number of PS-PI arms appended to X, and wherein the styrene content of the radial block copolymer is from 25 wt % to about 50 wt %, (ii) a linear triblock copolymer, (iii) a tackifying resin, and (iv) a liquid plasticizer. Based on the weight of the adhesive composition, the radial block copolymer component is present in amounts of less than 15 wt %, the linear triblock copolymer is present in amounts of up to about 20 wt %, the tackifying resin is present in amounts of from about 30 to about 70 wt %, and the plasticizer is present in amounts of from about 10 wt % to about 20 wt %. The claimed adhesive must be suitable for use as an elastic attachment adhesive. [Page 2, lines 9-16. Page 3, lines 6-10.]

Independent claim 17 is directed to a hot melt adhesive. The adhesive comprises, as required components, from about 3 wt% to less than 15 wt% of a radial block copolymer component [page 3, line 27] comprising $(PS-PI)_nX$ wherein PS is polystyrene and PI is polyisoprene, X is the residue of a multifunctional coupling agent used in the production of the radial block copolymer, and n is equal to or greater than 3 and represents the number of PS-PI arms appended to X [page 3, lines 14-17], and wherein the styrene content of the radial block copolymer is from 25 wt% to about 50 wt% [page 3, lines 21-23]; (ii) from about 1 wt% to about 20 wt% of a linear triblock copolymer [page 4, line 26 to page 5, line 2]; (iii) from about 30 wt% to about 70 wt% of a tackifying resin [page 1, line 24; page 2, lines 12-13; page 5, line 3]; (iv) from about 10 wt% to about 20 wt% of a liquid plasticizer [page 2, line 1; page 2, line 13]. The claimed adhesive must be suitable for use as an elastic attachment adhesive [page 2, lines 3-8; page 10 line 25 to page 11, line 6].

(vi) Grounds of rejection to be reviewed on appeal

A. WHETHER THE SUBJECT MATTER OF CLAIMS 1-4, 6-9, 11-14, 16 AND 17 ARE PATENTABLY DISTINCT OVER THE SUBJECT MATTER OF CLAIMS 1-4, 6-9, 11-14 AND 16 OF COPENDING APPLICATION SERIAL NO. 10/779,420 AND OVER CLAIMS 1-4 AND 6-12 OF COPENDING APPLICATION SERIAL NO. 10/779,505.

B. WHETHER THE SUBJECT MATTER OF CLAIMS 1-4 , 6-9, 11-14, 16 AND 17 ARE UNPATENTABLY OBVIOUS OVER KOMATSUZAKI ET AL. (U.S. 6,534,593) OR VAUGHAN ET AL. (U.S. 6,531,544) OR KUEPPERS (U.S. 5,939,483) OR ASAHIARA ET AL. (U.S. 5,532,319).

(B.1.1) WHETHER THE SUBJECT MATTER OF CLAIMS 1-4, 6-8 AND 17 IS UNPATENTABLY

OBVIOUS OVER KOMATSUZAKI ET AL. (U.S. 6,534,593).

(B.1.2) WHETHER THE SUBJECT MATTER OF CLAIMS 9 AND 11-13 IS UNPATENTABLY OBVIOUS OVER KOMATSUZAKI ET AL. (U.S. 6,534,593).

(B.1.3) WHETHER THE SUBJECT MATTER OF CLAIMS 14 AND 16 IS UNPATENTABLY OBVIOUS OVER KOMATSUZAKI ET AL. (U.S. 6,534,593).

(B.2.1) WHETHER THE SUBJECT MATTER OF CLAIMS 1-4, 6-8 AND 17 IS UNPATENTABLY OBVIOUS OVER VAUGHAN ET AL. (U.S. 6,531,544).

(B.2.2) WHETHER THE SUBJECT MATTER OF CLAIMS 9 AND 11-13 IS UNPATENTABLY OBVIOUS OVER VAUGHAN ET AL. (U.S. 6,531,544).

(B.2.3) WHETHER THE SUBJECT MATTER OF CLAIMS 14 AND 16 IS UNPATENTABLY OBVIOUS OVER VAUGHAN ET AL. (U.S. 6,531,544)

(B.3.1) WHETHER THE SUBJECT MATTER OF CLAIMS 1-4, 6-8 AND 17 IS UNPATENTABLY OBVIOUS OVER KUEPPERS (U.S. 5,939,483).

(B.3.2) WHETHER THE SUBJECT MATTER OF CLAIMS 9 AND 11-13 IS UNPATENTABLY OBVIOUS OVER KUEPPERS (U.S. 5,939,483).

(B.3.3) WHETHER THE SUBJECT MATTER OF CLAIMS 14 AND 16 IS UNPATENTABLY OBVIOUS OVER KUEPPERS (U.S. 5,939,483).

(B.4.1) WHETHER THE SUBJECT MATTER OF CLAIMS 1-4, 6-8 AND 17 IS UNPATENTABLY OBVIOUS OVER ASAHARA ET AL. (U.S. 5,532,319).

(B.4.2) WHETHER THE SUBJECT MATTER OF CLAIMS 9 AND 11-13 IS UNPATENTABLY OBVIOUS OVER ASAHARA ET AL. (U.S. 5,532,319).

(B.4.3) WHETHER THE SUBJECT MATTER OF CLAIMS 14 AND 16 IS UNPATENTABLY OBVIOUS OVER ASAHARA ET AL. (U.S. 5,532,319).

C. WHETHER THE SUBJECT MATTER OF CLAIMS 1-4, 6-9, 11-14 AND 16 IS SUPPORTED BY AN ENABLING DISCLOSURE.

(vii) Argument

A. Claims 1-4, 6-9, 11-14, 16 and 17 are patentably distinct over the subject matter of claims 1-4, 6-9, 11-14 and 16 of copending application Serial No. 10/779,420 and over claims 1-4 and 6-12 of copending application Serial No. 10/779,505.

Claims 1-4, 6-9, 11-14, 16 and 17 are provisional rejected as being unpatentably obvious over claims 1-4, 6-9, 11-14 and 16 of copending application Serial No. 10/779,420 and over claims 1-4 and 6-12 of copending application Serial No. 10/779,505. This is a nonstatutory obviousness-type double patenting rejection.

The examiner urges that there is significant overlap in scope between the claims of the subject application and the claims of copending applications.

Applicants disagree.

The adhesive of the subject application must comprise a (PS-PI)_nX radial block copolymer that is present in amounts of less than 15 wt %. In contrast, the adhesive of Serial No. 10/779,420 must comprises a (PS-PI-PB)_nX radial block copolymer that is present in amounts of less than 15 wt % and the adhesive of Serial No. 10/779,505 must comprises a (PS-PI-PB)_nX radial block copolymer that is present in amounts of from 15 wt % to 35 wt %.

In determining whether a nonstatutory basis exists for a double patenting rejection, the first question to be asked is: "Does any claim in the application define an invention that is merely an obvious variation of an invention claimed in the patent?" If the answer, as here, is no, then an obviousness double patent rejection is not appropriate. The claimed subject matter does not overlap and are not obvious variations. Indeed, these claims could not be encompassed by a generic claim and, had they been claimed together in a single application, would have been subject to a requirement for restriction.

Applicants submit that the claims of the subject application are not obvious variations of the inventions claimed in application Serial Nos. 10/779,420 and 10/ 779,505 and that the obviousness type double patenting rejection is improper.

The Board is requested to reverse the examiner's nonstatutory obviousness-type double patenting rejection.

B. Claims 1-4, 6-9, 11-14, 16 and 17 are patentable over each of Komatsuzaki et al. (U.S. 6,534,593), Vaughan et al. (U.S. 6,531,544), Kueppers (U.S. 5,939,483), and Asahara et al. (U.S. 5,532,319).

Claims 1-4, 6-9, 11-14, 16 and 17 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Komatsuzaki et al. (U.S. 6,534,593) or Vaughan et al. (U.S. 6,531,544) or Kueppers (U.S. 5,939,483) or Asahara et al. (U.S. 5,532,319). The examiner urges that each of the applied prior art patents shows and suggest each of the claimed ingredients and their use in combination in the claimed amounts.

Applicants disagree.

(B.1.1) Claims 1-4, 6-8 and 17 are patentable over Komatsuzaki et al.

Claims 1-4, 6-8 and 17 are directed to hot melt adhesives that are suitable for use as an elastic attachment adhesive. The adhesives comprise specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Komatsuzaki et al. disclose block copolymer compositions used as a pressure sensitive ingredient in pressure sensitive adhesives. As described in col. 3, lines 39-43, the styrene content is in the range of 5 to 24% by weight, more preferably 10-18 % by weight, and more preferable 11 to 14 % by weight. As described in the paragraph bridging cols. 3 and 4, see, in particular, col. 4, lines 3-5, unduly high levels of styrene will result in loss of tack. From the information set forth in col. 11, lines 7-11, it can be seen that the percent of SIS used in the formulation of Komatsuzaki is from 16.7 to 90.9 %. The pressure sensitive hot melt adhesive of Komatsuzaki et al. is used for the production of various pressure sensitive adhesive tapes, labels, deducting rollers and the like.

The adhesive claimed by applicants does not require pressure sensitive properties. Applicants claimed adhesive comprises a $(PS-PI)_nX$ radial block copolymer which is present in the adhesive in amounts of less than 15 wt %. The radial block copolymer required for use in the practice of applicants' invention has a styrene content of from 25 wt % to about 50 wt %. Such a high level of styrene will lead to a high modulus which is not useful in pressure sensitive adhesives. There is no disclosure or suggestion in the Komatsuzaki et al. patent that would motivate the skilled artisan modify the formulation Komatsuzaki et al. for use in the manufacture of disposable absorbent articles, let alone disposable elastic articles, which require high creep resistance. The pressure sensitive adhesives of Komatsuzaki et al. would not be useful as an elastic attachment adhesive in non woven applications.

In response to applicants' arguments, the examiner refers to col. 3, lines 36+, of Komatsuzaki as disclosing "no particular limitation is placed on the proportion of the poly(aromatic vinyl) block." While the examiner argues that given the flexible language, there is overlap, this disclosure noted by the examiner relates to the amount of A¹ in the diblock polymer component (a). Komatsuzaki discloses that there is no particular limitation is placed on the proportion of the poly(aromatic vinyl) block A¹ in the diblock polymer since its portion is determined to satisfy the criteria of having 5-24% by weight of poly(aromatic vinyl) block of components (a), (b) and (c). Komatsuzaki fails to disclose or suggest an adhesive suitable for

elastic attachment that comprises a $(PS-PI)_nX$ radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more. The claimed subject matter is not obvious over Komatsuzaki et al.

Reversal of the examiner's rejection of the claims 1-4, 6-8 and 17 as being obvious over Komatsuzaki et al. is requested.

(B.1.2) Claims 9 and 11-13 are patentable over Komatsuzaki et al.

Claims 9 and 11-13 are directed to articles comprising an elastomeric fiber and a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Komatsuzaki et al. is silent as any article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to manufacture an article as claimed by applicants. The claimed subject matter is not obvious over Komatsuzaki et al.

Reversal of the examiner's rejection of the claims 9 and 11-13 as being obvious over Komatsuzaki et al. is requested.

(B.1.3) Claims 14 and 16 are patentable over Komatsuzaki et al.

Claims 14 and 16 are directed to a process of bonding an elastomeric substrate to another substrate using a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Komatsuzaki et al. is silent as any process whereby an elastomeric substrate is bonded to another substrate, such as a nonwoven substrate, using the article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to use the claimed adhesive to bond an elastomeric substrate to a second substrate. The claimed subject matter is not obvious over Komatsuzaki et al.

Reversal of the examiner's rejection of the claims 14 and 16 as being obvious over Komatsuzaki et al. is requested.

(B.2.1) Claims 1-4, 6-8 and 17 are patentable over Vaughan et al.

Claims 1-4, 6-8 and 17 are directed to hot melt adhesives that are suitable for use as an elastic attachment adhesive. The adhesives comprise specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Vaughan discloses hot melt adhesives that can be used in the manufacture of disposable absorbent articles and which is in contact with an oil-based skin care ingredient. I.e., the adhesive is

used to bond substrates that contain or are coated with oil-based ingredients. The adhesives of Vaughan is described as containing 15 to 45 wt % of a block copolymer, 50 to 80 wt % of a tackifier and 0 to 10 wt % of a plasticizer. The block copolymer is preferably used in amounts greater than about 20 wt %, has a styrene content of less than 30 wt %, more preferably less than 20, even more preferably less than 15 wt % (col. 4, lines 8-10) and contains a diblock content of at least about 20 wt %, more preferably a least about 30 wt % (col. 2, line 22, and col. 4 lines13-16). The higher diblock percentage in the block copolymer is more preferable than the lower di-block, which is apposite of applicants' invention. Again, applicants claimed adhesive comprises a $(PS-PI)_nX$ radial block copolymer which is present in the adhesive in amounts of less than 15 wt %. The radial block copolymer required for use in the practice of applicants' invention has a styrene content of from 25 wt % to about 50 wt %. Moreover, in contrast to applicants' invention, with requires at least 10 wt % or plasticizer, the adhesive of Vaughan contains no more than 10 wt %, and may be formulated without its use. Reference is made to Example 2, which lacks oil, and to Comparative example A, which contains 15 wt % oil and exhibits poor performance.

In response, the examiner argues that applicants "more than 10% plasticizer" and "less than 15 wt % radial block copolymer" overlaps Vaughan's "no more than 10% plasticizer" and "15-45 wt % block copolymer". Clearly no overlap exists. While the examiner notes that "second block copolymer" of Vaughan is cited as reading on applicants' claimed radial block copolymer, the second block copolymer of Vaughan is described as preferably being SBS radial block copolymer. Vaughn fails to disclose or suggest an adhesive suitable for elastic attachment that comprises a $(PS-PI)_nX$ radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

The claimed subject matter is not obvious over Vaughan et al.

Reversal of the examiner's rejection of the claims 1-4, 6-8 and 17 as being obvious over Vaughan et al. is requested.

(B.2.2) Claims 9 and 11-13 are patentable over Vaughan et al.

Claims 9 and 11-13 are directed to articles comprising an elastomeric fiber and a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Vaughan et al. is silent as any article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to manufacture an article as claimed by applicants. The claimed subject matter is not obvious over Vaughan et al.

Reversal of the examiner's rejection of the claims 9 and 11-13 as being obvious over Vaughan et al. is requested.

(B.2.3) Claims 14 and 16 are patentable over Vaughan et al.

Claims 14 and 16 are directed to a process of bonding an elastomeric substrate to another substrate using a particular adhesive. The adhesive comprises specific amounts of a (PS-PI)_nX radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Vaughan et al. is silent as any process whereby an elastomeric substrate is bonded to another substrate, such as a nonwoven substrate, using the article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to use the claimed adhesive to bond an elastomeric substrate to a second substrate. The claimed subject matter is not obvious over Vaughan et al.

Reversal of the examiner's rejection of the claims 14 and 16 as being obvious over Vaughan et al. is requested.

(B.3.1) Claims 1-4, 6-8 and 17 are patentable over Kueppers.

Claims 1-4, 6-8 and 17 are directed to hot melt adhesives that are suitable for use as an elastic attachment adhesive. The adhesives comprise specific amounts of a (PS-PI)_nX radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Kueppers describes an adhesive used in packaging applications. The viscosity of the Kueppers adhesive, typically less than about 1500 cps at about 150°C, would not be useful as an elastic attachment adhesive and would not render obvious the subject matter claimed by applicants. See Table 1 (col. 10) of Kueppers, in which the adhesive examples are reported to have viscosities ranging from 1100 to 1470 cPs and 150°C. In contrast, applicants' formulation set forth in Table 1 (page 13 of applicants' specification) shows a viscosity at 300°F (150°C).

In response the examiner urges that the composition ingredients and relative amounts are shown in Kueppers, and that it is well within the art to manipulate viscosity and to formulate within the scope of the claims. The examiner also notes there is no viscosity limitation claimed. While applicants acknowledge there is no viscosity limitation recited in the claims, the claims do recite that the adhesive be formulated so as to be suitable for use as an elastic attachment adhesive. The packaging adhesive of Kueppers would not be suitable for use as an elastic attachment adhesive. Kueppers fails to disclose or suggest an adhesive suitable for elastic attachment that comprises a (PS-PI)_nX radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

The claimed invention is not obvious over Kueppers.

Reversal of the examiner's rejection of the claims 1-4, 6-8 and 17 as being obvious over Kueppers is requested.

(B.3.2) Claims 9 and 11-13 are patentable over Kueppers.

Claims 9 and 11-13 are directed to articles comprising an elastomeric fiber and a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Kueppers is silent as any article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to manufacture an article as claimed by applicants. The claimed subject matter is not obvious over Kueppers.

Reversal of the examiner's rejection of the claims 9 and 11-13 as being obvious over Kueppers is requested.

(B.3.3) Claims 14 and 16 are patentable over Kueppers.

Claims 14 and 16 are directed to a process of bonding an elastomeric substrate to another substrate using a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Kueppers is silent as any process whereby an elastomeric substrate is bonded to another substrate, such as a nonwoven substrate, using the article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to use the claimed adhesive to bond an elastomeric substrate to a second substrate. The claimed subject matter is not obvious over Kueppers.

Reversal of the examiner's rejection of the claims 14 and 16 as being obvious over Kueppers is requested.

(B.4.1) Claims 1-4, 6-8 and 17 are patentable over Asahara et al. (U.S. 5,532,319).

Claims 1-4, 6-8 and 17 are directed to hot melt adhesives that are suitable for use as an elastic attachment adhesive. The adhesives comprise specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Asahara et al. disclose block copolymer compositions having specific combinations and types of block copolymers and pressure sensitive adhesive prepared using the block copolymer compositions of the invention as the base polymer component of the adhesive. The block copolymer compositions are formulated for pressure sensitive applications and comprise 20-90 wt % of a $(S-B-I)_n-X$ and/or $(S-I-B)_n-X$ block copolymer where $n=2, 3$ or 4 and from 80-10 of a SBI or SIB diblock. While Asahara et al. disclose compositions that contain $(S-B-I)_n-X$ wherein x is 2-4, there is no exemplification, or even a general disclosure of the use of any polymer composition comprising $(S-I)_3-X$ let alone in amounts of less than 15 wt %. There is no disclosure of the required use of a linear triblock in amounts of less than 20 wt % as disclosed and claimed by applicants. A polymer of the type disclosed for use in applicants claimed hot

melt adhesive is not disclosed or suggested by Asahara et al.

The examiner's position that the S-I-B and S-B-I triblocks of Asahara overlap the claimed radial S-I block copolymer is without merit. It is unclear what the examiner means by "overlap", but as this term is conventionally used and understood, no overlap exist. Asahara fails to disclose or suggest an adhesive suitable for elastic attachment that comprises a $(PS-PI)_nX$ radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

The claimed subject matter is not obvious over Asahara et al.

Reversal of the examiner's Section 103 rejection of the claims 1-4, 6-8 and 17 as being obvious over Asahara et al. is requested.

(B.4.2) Claims 9 and 11-13 are patentable over Asahara et al.

Claims 9 and 11-13 are directed to articles comprising an elastomeric fiber and a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Asahara et al. is silent as any article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to manufacture an article as claimed by applicants. The claimed subject matter is not obvious over Asahara et al.

Reversal of the examiner's rejection of the claims 9 and 11-13 as being obvious over Asahara et al. is requested.

(B.4.3) Claims 14 and 16 are patentable over Asahara et al.

Claims 14 and 16 are directed to a process of bonding an elastomeric substrate to another substrate using a particular adhesive. The adhesive comprises specific amounts of a $(PS-PI)_nX$ radial block copolymer component, a linear triblock copolymer component, a tackifying resin component, and a liquid plasticizer component.

Asahara et al. is silent as any process whereby an elastomeric substrate is bonded to another substrate, such as a nonwoven substrate, using the article that comprises an elastomeric fiber and an adhesive as claimed by applicants. There is no disclosure or suggestion that would lead the skilled artisan to use the claimed adhesive to bond an elastomeric substrate to a second substrate. The claimed subject matter is not obvious over Asahara et al.

Reversal of the examiner's rejection of the claims 14 and 16 as being obvious over Asahara et al. is requested.

C. Claims 1-4, 6-9, 11-14 and 16 are supported by an enabling disclosure.

Claims 1-4, 6-9, 11-14 and 16 are rejected under 35 U.S.C. § 112, first paragraph.

It is the examiner's position that the claims require no radial block copolymer, due to the recitation

in the claims that the radial copolymer is present in amounts of less than 15 wt %.

Applicants disagree.

Claim 1 does not recite an adhesive comprising less than 15 wt % of a radial block copolymer component, up to about 20 wt % of a linear triblock, from about 30 to about 70 wt % of a tackifying resin, and from about 10 wt % to about 20 wt % of a plasticizer. Rather, the claimed adhesive, as recited, is one that must comprise a radial block copolymer, a linear triblock copolymer and a liquid plasticizer. The claim then sets limitations on the amounts of each, i.e., the radial copolymer is present, but is present in amounts of less than 15 wt %.

Clearly the specification provides support for the claimed subject matter.

Reversal of the examiner's rejection Section 112, first paragraph, rejection is requested.

Respectfully submitted,

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(viii) Claims appendix

1. A hot melt adhesive comprising

a radial block copolymer component comprising $(PS-PI)_nX$ wherein PS is polystyrene and PI is polyisoprene, X is the residue of a multifunctional coupling agent used in the production of the radial block copolymer, and n is equal to or greater than 3 and represents the number of PS-PI arms appended to X, and wherein the styrene content of the radial block copolymer is from 25 wt % to about 50 wt %

a linear triblock copolymer,

a tackifying resin, and,

a liquid plasticizer,

wherein, based on the weight of the adhesive composition, the said radial block copolymer component is present in amounts of less than 15 wt %, the linear triblock is present in amounts up to about 20 wt %, the tackifying resin is present in amounts of from about 30 to about 70 wt %, and the plasticizer is present in amounts of from about 10 wt % to about 20 wt %,

said adhesive being suitable for use as an elastic attachment adhesive.

2. The adhesive of claim 1 in which the number average molecular weight of each PS-PI arm is less than about 160,000.

3. The adhesive of claim 2 wherein the radial block copolymer component has a di-block percentage of less than about 30%.

4. The adhesive of claim 3 wherein the radial block copolymer component has a di-block percentage of less than about 20 %.

6. The adhesive of claim 1 wherein said linear triblock copolymer is styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-isobutylene styrene, styrene-b-ethylene/butylene-b-styrene, and/or styrene-b-ethylene/propylene-b-styrene.

7. The adhesive of claim 1 wherein the number n is between about 3 and about 6.

8. The adhesives of claim 1 further comprising a wax.

9. An article of manufacture comprising an elastomeric fiber and the adhesive of claim 1.

11. The article of claim 9 which is a disposable elastic article.
12. The article of claim 11 which is a disposable absorbent elastic article.
13. The article of claim 12 which is a diaper.
14. A process for bonding a first substrate to a second substrate comprising applying to at least the first substrate the adhesive of claim 1, bringing at least the second substrate in contact with the adhesive present on the first substrate whereby said first and second substrates are bonded together, wherein at least one of said first substrate or said second substrate is an elastomeric polyurethane fiber.
16. The process of claim 14 wherein one of said first substrate or said second substrate is a nonwoven substrate.
17. A hot melt adhesive comprising
 - from about 3 wt % to less than 15 wt % of a radial block copolymer component comprising $(PS-PI)_nX$ wherein PS is polystyrene and PI is polyisoprene, X is the residue of a multifunctional coupling agent used in the production of the radial block copolymer, and n is equal to or greater than 3 and represents the number of PS-PI arms appended to X, and wherein the styrene content of the radial block copolymer is from 25 wt % to about 50 wt %
 - from about 1 wt % to about 20 wt % of a linear triblock copolymer,
 - from about 30 wt % to about 70 wt % of a tackifying resin, and
 - from about 10 wt % to about 20 wt % of a liquid plasticizer.said adhesive being suitable for use as an elastic attachment adhesive.

(ix) Evidence appendix

NONE

(x) Related proceedings appendix

- A. Serial No. 10/779, 420 (Attorney Docket No. N-3073.NWN), filed February 13, 2004 in the names of Qiwei He and Michael G. Harwell. Assigned to Henkel AG & Co. KGaA.
- B. Serial No. 10/779,505(Attorney Docket No. N-3075.NWN), filed February 13, 2004 in the names of Qiwei He and Michael G. Harwell. Assigned to Henkel AG & Co. KGaA.